

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 04349926
PUBLICATION DATE : 04-12-92

APPLICATION DATE : 29-05-91
APPLICATION NUMBER : 03126105

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INT.CL. : B01D 71/02 C01B 3/56

TITLE : HYDROGEN GAS SEPARATION MEMBRANE

ABSTRACT : PURPOSE: To obtain a separation membrane having high hydrogen gas separating capacity by supporting a silica gel, an alumina gel or a silica/alumina gel in the pores of an inorg. porous body and forming a membrane containing palladium to the surfaces of the gel layers of said pores.

CONSTITUTION: An inorg. porous body such as porous ceramics, porous glass porous pottery or a metallic perforated filter body is immersed in a silica gel, an alumina gel or a silica/alumina gel to support the gel in the pores of the porous body. Next, the inorg. porous body having the silica gel or the like supported thereon is dried and fired at predetermined temp. Subsequently, this fired body is subjected to surface activating treatment and an electroless plating method, a vacuum vapor deposition method, an ion plating method or a gaseous phase chemical reacting method is adapted to the fired body to form a palladium membrane to the surface of the fired body to obtain a hydrogen gas separation membrane. When a hydrogen-containing gaseous mixture is brought into contact with one surface of the obtained hydrogen gas separation membrane, the separation membrane permits only hydrogen to selectively transmit and pure hydrogen flows out from the other surface of the separation membrane.

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